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Transitioning to a clean energy growth model: Challenges, opportunities and solutions

Note by the UNCTAD Secretariat

Summary

A series of interconnected and cascading crises facing developing countries, along with an increasingly fractured global economy, raise the question of how to rethink development strategies in a climate-constrained world. As in the past, and for many of the same reasons, successful development pathways continue to rely on building industrial capacity. However, climate change is not only adding additional challenges in the twenty-first century but leading to increased concerns among many Governments in the Global South that they will be stranded in an increasingly inhospitable world. As a result, developmental states need to be able to balance the threat of climate change with the long-standing goals of economic diversification, employment creation and technological catch-up. This can only be done by building industrial capacity based on a sustainable energy system. Addressing climate change therefore makes structural transformation a global task, whereby advanced economies need to take the lead, with significant structural and technological changes also needed in the least developed countries. Aligning national and global challenges is neither straightforward nor automatic, but requires strategic planning, active policy intervention and effective multilateral cooperation.

The national and international dimensions of the challenge of building industrial capacity in a climate-constrained world are discussed in this note. At this session of the Multi-Year Expert Meeting, the issue of transitioning to a clean energy growth model as a problem of building industrial capacity in a climate-constrained world will be discussed, and directions for policymaking will be proposed, to steer the global economy towards a more sustainable future.



I. Introduction

1. The world economy is again in a state of flux. It returned to growth in 2021 following the short but deep contraction in 2020, yet is dealing with a cost-of-living crisis against a backdrop of slower economic growth, with the return of a recession a possibility in some leading economies. The pandemic has begun to abate, yet policymakers face many other crises, including an energy and food crisis, inflation and debt distress. In addition, globalization seems more fragile than before, as geopolitical tensions have increased, including with regard to the war in Ukraine and the two largest economies in the world. This shift towards an increasingly multipolar order is taking place against an ever more fractured global economic system and a system of global governance unable to respond adequately to multiple crises. The cascade of crises is exacerbating existing and creating new inequalities both among and within countries, threatening to reverse some of the development gains of the past decades and to preclude the possibility in many developing countries of achieving the Sustainable Development Goals.¹

2. In parallel, climate change is fast becoming one of the most serious global challenges. The effects of climate change are reaching all corners of the globe, and loss and damage due to the impacts of climate change are a reality for an increasing number of countries and communities. In 2023, new temperature records were reached in many countries in the northern hemisphere in the summer months, compounded by the El Niño phenomenon. With the number of extreme climate events multiplying, no region is spared the increasing impacts. Forest fires in Canada, prolonged droughts in China and East Africa, floods in Pakistan and the Republic of Korea and heatwaves in Europe, to name a few events, are a preview of what will occur if temperatures pass the levels defined in the Paris Agreement under the United Nations Framework Convention on Climate Change. Research shows that the global mean surface temperature in 2011–2020 was 1.09°C above that in 1850–1900, yet mitigation commitments in nationally determined contributions fall far short of what is required, and will, based on current trajectories, push warming well above the target to limit the temperature increase to 1.5°C above pre-industrial levels.² Under the Paris Agreement, the overarching goal of the international community is to limit the increase in the global average temperature to well below 2°C above pre-industrial levels, yet under current policies, the world is on a path to reach, by the year 2100, an average temperature of 2.7°C higher than in the pre-industrial era.³ The prevailing state of affairs has already put societies and nature in a vulnerable situation and, if unchecked, will have significant negative consequences. People and nature need to be placed in the foreground, which may not be achievable under the current economic model.

3. Shifting away from an unsustainable economic model centred on fossil fuels is key to addressing climate change and mitigating the disproportional impact on societies and countries. Meeting this challenge critically depends on the adoption of a strategic industrial policy approach to accelerating the speed of the energy transition and industrial restructuring, and directing or redirecting innovation towards sustainable prosperity and the effective decoupling of natural resource use and environmental impacts from economic growth.

¹ United Nations, Global Crisis Response Group on Food, Energy and Finance, 2022, Global impact of war in Ukraine on food, energy and finance systems, available at <https://news.un.org/pages/global-crisis-response-group>.

² Intergovernmental Panel on Climate Change, 2022, *Climate Change 2022: Mitigation of Climate Change – Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, New York.

³ See <https://climateactiontracker.org/climate-target-update-tracker-2022/>.

Note: All websites referred to in footnotes were accessed in August 2023.

II. Global aspects of building industrial capacity in a climate-constrained world

A. Towards a new model of sustainable growth and development

4. A path to overcoming current economic setbacks, avoiding a lost decade and achieving the Sustainable Development Goals, as well as the climate goals under the Paris Agreement, may still be followed. In the short term, doing so requires simultaneously dealing with the urgency of the cost-of-living crisis and addressing the deficit of decent jobs in many developing countries, particularly for younger people, while addressing a deteriorating growth outlook by reducing the burden of debt, boosting productive investment and expanding redistributive measures, to bolster local markets and boost confidence among households and firms. In the midterm to long term, doing so requires addressing the underlying structural problems of the current model and establishing a new one.

5. The international community signalled a path to a new model through the adoption of an ambitious and multidimensional development agenda, with the goal of achieving a more prosperous and inclusive world. The 2030 Agenda for Sustainable Development and the Paris Agreement may be viewed as the response of the international community to the interrelated challenges of climate change, social exclusion and uneven economic development. Achieving such an ambitious agenda requires a new development model that does not exceed planetary boundaries. The core of such a model is a fundamental socioeconomic transformation based on decarbonization of the economy, greater attention to distributional issues and significant investment, both public and private, in public goods.

6. Urgently needed is a policy paradigm shift from weakly regulated financial markets, fiscal austerity, trade liberalization and privatization to dedicated public policies, strengthened regulatory powers, an expansionary macroeconomic climate and support for global public goods. Such a fundamental socioeconomic transformation also requires improved domestic institutional set-ups built on a climate-conscious developmental state and adequate policy space, along with multilateral cooperation and an enabling international economic environment. However, the international community lacks the appropriate tools to achieve such an agenda, given the existing gaps and asymmetries in the current structures of global economic governance. The global economy therefore remains characterized by food insecurity and hunger, the significant underutilization of labour, macroeconomic instability, an unsustainable debt overhang, significant disparities in income and wealth within and across countries, high market concentration, rent-seeking behaviour, a digital divide, significant levels of tax evasion and avoidance, insufficient levels of investment and speculative bubbles in financial and real-estate markets.

7. Rebuilding the international economic order to deliver prosperity for all hinges on the revival of multilateralism, dedicated to meeting internationally agreed goals. Movement in this direction can draw lessons learned from the discussions in the 1940s during the founding of the United Nations. Adapting these to the realities of the twenty-first century global economy will require fresh and creative thinking.⁴

B. Towards a global just transition

8. Developing countries, particularly the least developed countries and small island developing States, have been impacted by climate change more than developed countries due to their greater vulnerability, limited response capacities and lack of adequate financial and technical resources.⁵

⁴ Gallagher KP and Kozul-Wright R, 2022, *The Case for a New Bretton Woods*, Polity Press, Cambridge, United Kingdom of Great Britain and Northern Ireland.

⁵ UNCTAD, 2022, *The Least Developed Countries Report 2022: The Low-Carbon Transition and Its Daunting Implications for Structural Transformation* (United Nations publication, Sales No. E.22.II.D.40, Geneva).

9. Significant levels of economic inequality have consequences on the respective responsibilities and capabilities of individuals, communities and countries, to respond to the climate challenge. The richest 10 per cent of the global population accounts for 48 per cent of total emissions; the middle 40 per cent, for 40 per cent. In contrast, the poorest 50 per cent of the global population accounts for 12 per cent of total emissions but is most likely to face the harshest consequences of climate change with the least means.⁶

10. The link between income and emissions is also reflected across different country groups, since per capita emissions in advanced economies continue to outstrip those in developing countries. For example, the population of the least developed countries is 17 per cent of the global population and is responsible for emitting only 1 per cent of greenhouse gas emissions. In per capita terms, the least developed countries emit only 10 per cent of average global emissions.⁷

11. This carbon inequality has a direct bearing on the just transition potential in developing countries. If the remaining carbon budget continues to be stretched by wealthy individuals and if mitigation efforts in advanced economies remain insufficient, there will be little room for necessary developmental activities. To mount a programme of green structural transformation and deliver on the 2030 Agenda, developing countries may need to increase emissions in the short term, even with access to the most efficient technologies. Delivering a just transition at the global level, therefore, requires addressing inequality and rapidly reducing the consumption of fossil fuels, in particular in advanced economies.

12. It is difficult to envisage a successful transition to a more sustainable economic, social and environmental model if economic inequality continues to be as pronounced as it is at present. Polarized societies are more prone to economic and social instability and more vulnerable to the adverse effects of environmental breakdown. The consequences of rising global temperatures reflect, and are amplified by, existing structural inequalities within and across countries. Addressing these issues is essential to successful climate action. A just transition can therefore be understood as robust climate action coupled with building better livelihoods for all. A new model of sustainable development should combine climate-related and development goals in a coherent strategy based on structural transformation.

13. When addressing the issue of how to achieve both climate-related and development goals, the principle of common but differentiated responsibility and respective capabilities should be considered. Recognizing the fact that most developing countries have emitted much less than developed countries is only a first step. It is also necessary to consider that developing countries face the significant task of catching up in terms of economic and social development. Finally, it should be noted that the majority of developing countries cannot successfully embark on a green transition without support from developed countries.

C. Enabling conditions at the global level for building industrial capacity in a climate-constrained world

14. The transition towards a low-carbon and circular economy entails not only a complete change of the energy basis of economies, but also the retrofitting of all production systems and infrastructure. The scale of such an undertaking would make it the largest structural transformation of the world economy in history. As such, it represents an opportunity to build a more equal world, in which all developing countries would have the opportunity to catch up with developed countries. At its core, development is a transformational process that combines interactive and cumulative linkages, to create a virtuous circle of greater resource mobilization, increasing employment, higher incomes, expanding markets and more investment, leading to better jobs and higher value added activities. Strong productivity growth is needed to maintain such a circle, providing policymakers with the room to better manage trade-offs and conflicting interests, and offering the potential to narrow gaps with developed countries.

⁶ See <https://wir2022.wid.world/>.

⁷ UNCTAD, 2022.

15. Building industrial capacity has been at the core of successful catch-up strategies, including most recently in economies in East Asia. However, these experiences have been more an exception than the rule. More prevalent among developing countries have been cases of stalled industrialization or even premature deindustrialization, with countries losing industrial capacity and employment at a level of income, when the opposite should take place.⁸ The structural constraints and policy failures behind these trends continue to be discussed; the overall lesson is that if structural transformation has been difficult to achieve in a world with limited or absent climate considerations, achieving it in a climate-constrained world is likely to be an even more complex, difficult and uncertain task.

16. Acknowledging that climate change is now a priority for policymakers worldwide therefore shows that structural transformation is a global task, on which advanced economies should take the lead, but with significant structural and technological changes also needed in the least developed countries. Aligning national and global challenges is neither straightforward nor automatic, but requires strategic planning, active policy intervention and effective multilateral cooperation. The ideal enabling conditions at the global level for building industrial capacity in developing countries would involve accelerated mitigation in developed countries, the transfer of low-carbon technologies from developed to developing countries, sufficient and predictable long-term financial support for developing countries, a reformed global economic architecture that provides more policy space to developing countries and the coordinated climate-sensitive reflation of the global economy. However, most of these conditions are absent or only weakly in place.

17. Rapid progress in mitigation depends on the immediate actions of the largest players, particularly China, the United States of America and the European Union. The United States and the European Union account for close to half the stock of carbon dioxide emissions in the atmosphere. China accounts for less in historic terms but is now the world's greatest emitter. However, China has also advanced the furthest on the green transition, including with regard to green energy technologies. In 2021, China installed more renewable capacity than the United States, Africa, Europe, Latin America, the Middle East and South-East Asia combined, and significant reductions in the price of renewables have largely driven this rapid advancement.⁹ The United States and the European Union are also catching up, with ambitious mitigation programmes.

18. The United States has introduced some critical legislation that represents an ambitious industrial policy package intended to incentivize the green transition. The CHIPS[Creating Helpful Incentives to Produce Semiconductors] and Science Act and the Inflation Reduction Act in particular provide incentives to boost research, development and the production of semiconductors in the United States and incentivize clean energy production and the transformation of energy demand, reductions in the cost of green financing and the advancing of climate technology innovations. One estimate shows that the original subsidy target of the Inflation Reduction Act of around \$400 billion is likely to be doubled and, due to multiplier effects and the crowding in of private investment, total spending could be \$1.7 trillion in the next 10 years.¹⁰

19. The European Union has adopted a set of policy initiatives called the European Green Deal, intended to place the European Union on a net zero path as of the present decade. Resources available in the 2010–2027 budget period will reach €600 billion if the Next Generation European Union post-pandemic recovery fund is added to resources from the Multiannual Financial Framework. The European Union has also announced trade measures that will affect all countries exporting to the European Union if their environmental standards are less stringent than those in the European Union, referred to as the Carbon Border Adjustment Mechanism, scheduled to enter into force in 2026.

20. Decarbonization efforts are progressing slowly in developed countries, yet the pace has quickened compared with the situation only a few years previously. The green industrial

⁸ UNCTAD, 2016, *Trade and Development Report 2016: Structural Transformation for Inclusive and Sustained Growth* (United Nations publication, Sales No. E.16.II.D.5, New York and Geneva).

⁹ See <https://www.nytimes.com/2022/09/14/opinion/environment/china-climate-change-heat-drought.html>.

¹⁰ See <https://www.credit-suisse.com/about-us-news/en/articles/securities-research-reports/report-13-202205.html>.

policy and the energy crisis due to the war in Ukraine may have fast-tracked the green transition in the European Union by 5–10 years. Similarly, the first year of the implementation of the Inflation Reduction Act in the United States surpassed expectations by a large margin; for example, in 2023, companies announced 31 new battery manufacturing projects in the United States, more than in the previous four years combined.¹¹ Worldwide, capital expenditure on wind and solar assets grew from \$357 billion in 2021 to \$490 billion in 2022, outpacing investment in existing and new oil and gas for the first time.

21. The revival of industrial policy and progress in supporting the green transition have not been extended to and shared with developing countries, which lag behind in the green transition and face many other pressing issues, including high costs of debt servicing, and have not been able to muster needed resources. To date, the Global South has mainly been perceived as a source of raw materials to fuel the global energy transition, with little attention devoted to what is needed to maximize the broader socioeconomic benefits of the transition in these regions.

22. The current trend of monetary tightening and fiscal austerity in systematically important countries is also detrimental to growth prospects in developing countries. Instead, expansionary fiscal and monetary policies are needed, coordinated across countries, to provide a climate-sensitive reflation of the global economy. This could trigger positive effects on the growth trajectory in developing countries and be beneficial to the significant investment effort needed to speed up the green transition in developing countries. Among the remaining enabling conditions at the global level, affordable access to green technologies is not yet a topic of discussion and long-term affordable and predictable financing is inadequate, despite recent discussions on scaling-up regional and multilateral sources. The reform of the global economic architecture to increase the policy space of developing countries is a necessary precondition, for these countries to successfully advance on climate-related and development goals, even as developed countries have widened policy options to address their immediate challenges and concerns.

III. Domestic challenges in green structural transformation

23. Developing countries encounter many obstacles in mobilizing resources and designing policies for their effective use. Some of these are due to international rules and regulations, while others are due to internal factors.

24. The response to the pandemic, as well as the food and energy crises, have increased debt levels in most developing countries, and monetary tightening in advanced economies has been added to this issue, resulting in heightened debt servicing costs across the Global South. Consequently, 60 per cent of low-income countries and 30 per cent of middle-income countries are now in or close to debt distress. Moreover, 48 countries with a combined population of 3.3 billion currently spend more on debt servicing than on education or health. During the first year of the pandemic, developed countries announced measures to support households and firms, equivalent to 23 per cent of gross domestic product (GDP). By contrast, announced support in low-income countries averaged 5 per cent of GDP.

25. Similarly, macroeconomic stability is crucial for long-term investment, particularly green investments, as they entail a significant amount of uncertainty. However, most developing countries are subject to global movements of international capital that are driven by a combination of monetary policy and investor sentiment in systemically important countries. This results in financial volatility and produces boom and bust cycles in developing countries that are not related to domestic macroeconomic conditions but are imposed by the free movement of capital. There may be a build-up of large policy buffers in terms of international reserves, yet this is not enough to insulate many developing countries from such destabilizing external influences.

26. Financing the green transition is another significant challenge, particularly among developing countries. The initial costs of implementing sustainable practices and

¹¹ See <https://www.nytimes.com/2023/05/30/opinion/climate-clean-energy-investment.html>.

technologies can be high, and many countries face limited domestic financial resources. Access to affordable capital, investment opportunities and financing mechanisms are crucial in supporting the transition.

27. Most developing countries, in particular the least developed countries, face barriers in accessing international markets for exports. Trade restrictions, tariffs and non-tariff barriers set by developed countries can hinder the exports of countries with small domestic markets that have led to the adoption of an export-led strategy in order to develop. Removing such barriers and refraining from imposing new ones is essential in order to facilitate the transition.

28. The majority of developing countries also often lack the necessary infrastructure for development, in particular the infrastructure required for building capacity in the green sectors of the economy that are necessary to forge a sustainable development path. This includes renewable energy generation facilities, recycling and waste management systems, efficient transportation networks and sustainable agriculture practices. Building such infrastructure requires significant investment and technical expertise.

29. Addressing these and other challenges requires a comprehensive approach involving international cooperation, capacity-building initiatives, technology transfer, financial support and tailored policies that consider the unique circumstances in each developing country. However, reforming the global economic architecture is likely the most important step in alleviating some of the main obstacles to the policy space of developing countries. Governments have a central role in creating inclusive and sustainable economies through policies that go beyond the adoption of renewable energy sources, to include the promotion of value added activities that feed into and from renewable energy value chains. Possible policy actions in this context include green industrial policies, such as appropriate local content incentives, business incubation initiatives, research and development support, the promotion of low-carbon industrial clusters and green skills development programmes, to train the workforce required for decarbonized industries. They also include circular economy policies, to help countries and communities manage scarce resources and trade waste material, to reduce the life cycle of emissions in various industries, thereby improving both resource efficiency and productivity.

30. However, the obstacles faced in developing countries are structural issues that prevent them from being active economic players and from choosing and implementing development paths. The successful experience in countries in East Asia has highlighted the key role of strategic trade and industrial policies employed by strong developmental states in promoting structural transformation and compensating for competitive disadvantages faced by their firms in international markets. Active policy measures helped animate a robust profit, investment and export nexus in the most successful economies in East Asia and highlighted the role of effective public institutions willing and able to coordinate with the private sector and with sufficient policy space to support, guide and, where necessary, discipline businesses in order to achieve a fast pace in investment and technological upgrading. Without a similarly active developmental state in other regions, to pursue both climate-related and development goals, building industrial capacity in the twenty-first century and transitioning to a low-carbon economy will likely be impossible.

IV. Regional aspects of building green industrial capacities

A. Regional transformation strategies

31. There is a limit to how much can be achieved by individual Governments in isolation, without cooperation at the regional level. This is evident when considering developing countries that often lack essential capacities and the policy space needed to undertake a successful transformation process autonomously. Each developing country has different strengths, from mineral wealth to manufacturing expertise or proximity to important trade routes. Such assets can form part of a carefully designed plan to develop an efficient regional industrial ecosystem based on low-carbon technologies, which would not be feasible at the level of individual countries and that might generate considerable positive impacts across a range of sectors, including energy, climate-resilient agriculture, low-carbon manufacturing,

carbon emissions trading and the bioeconomy. Regional transformation plans, or regional green deals, can be understood as comprehensive and coordinated policy packages that aim to bring together the objectives of achieving climate goals, fostering economic development, creating decent jobs and guaranteeing equity and welfare. To date, green deals have been proposed and discussed in several regions but remain principally framed in the context of advanced economies, such as the Green New Deal in the Republic of Korea and the European Green Deal.

32. However, it is the abundance of natural resources in developing regions such as Africa and Latin America that shows their potential in the development of green value chains. Exporters of cobalt, for example, might be involved in the production of low-cost and low-emissions lithium-ion battery precursors, instead of being relegated to the lower levels of the battery value chain as suppliers of minerals. This kind of battery value chain can be further linked to the growing automobile value chains based in South Africa and, in Latin America, in Brazil and Mexico.

33. Another critical sector in many developing countries is food production. The pandemic served to illustrate the vulnerability of food security in developing countries. Strategic investment in productive sustainable value chains can change food production. In particular, investment in sustainable climate-smart agriculture and food value chains creates some of the highest multipliers in terms of gross value addition. For example, in the Democratic Republic of the Congo, investing in irrigation has been associated with a return of around 500 per cent and, in Egypt, research has estimated a return of 400–500 per cent from investment in solar-powered reverse osmosis irrigation. Several developing economies are also endowed with natural products sourced from plants such as Kalahari melon, marula and sour plum. The use of some of these products can be explored in the development of biodiversity-based value chains in sectors such as pharmaceuticals and cosmetics.

B. Global constraints and regional cooperation

34. Advancing towards a green transformation may be limited by constraints in the external environment under World Trade Organization agreements that limit certain policy areas. Regional and, more generally, South–South cooperation can help overcome such obstacles. Such cooperation can set up new financing mechanisms for the energy transition and infrastructure development, facilitate the transfer of technology, create conditions for moving to a circular economy at the regional level and support a more ambitious development agenda that focuses on productive capacity-building and the green transformation.

35. Developing countries embarking on a strategy of rapid and transformative green development could also revisit the role of regional development banks that can provide long-term finance. For example, the recent creation of the Asian Infrastructure Investment Bank represents significant progress towards meeting the financing challenges of a green transition in the region. Finance bottlenecks can also be alleviated through direct intervention by large economies in the Global South to achieve ambitious projects. For example, Ethiopia has established a partnership with China with regard to two railway projects, namely, the electrified standard gauge railway line from Addis Ababa to Djibouti and the Addis Ababa light rail transit system.

36. A regional approach can also favour technological transfer using the flexibilities under the Agreement on Trade-Related Aspects of Intellectual Property Rights, for example, with regard to the exhaustion of intellectual property rights as applied to green technologies. Regional exhaustion, rather than territorial or universal, would allow parallel importing only when a product is sold within the region concerned. By creating geographical buffer zones for patent protection, yet at the same time allowing for parallel importing, regional exhaustion could properly balance technology transfer with incentives to innovate. Developing countries may consider cooperating on moving beyond the current intellectual property framework and could propose the adoption of a declaration on the Agreement on Trade-Related Aspects of Intellectual Property Rights and climate change, intended to clarify existing flexibilities and offer new incentives for the transfer of environmentally sound technologies, for both adaptation and mitigation purposes. Ecuador addressed this subject at a meeting of the

Council for the Agreement on Trade-Related Aspects of Intellectual Property Rights in 2013, and the issue has been discussed at a number of subsequent meetings.¹²

37. Finally, cohesive regional recycling networks, particularly with regard to electronic waste and the scrap metal trade, among developing countries within regional integration processes could foster the development of an economy-of-scale refinery industry, which can be instrumental in moving towards a circular economy. A pull-and-transformation strategy could be adopted by regional coordination agencies in order for countries to follow an evolutionary approach and lock in path dependencies. In this context, industrial policies should support technology transfer, the development of backward and forward industrial linkages and business investment in relatively more advanced countries that could potentially host refinery smelters; optimize and harmonize collection systems to improve efficiency in countries with significant electronic waste streams and existing recycling schemes; and raise awareness and encourage recycling behaviour in countries in which electronic waste recycling has not yet become a common practice.¹³

C. Latin America: Significant opportunities for regional cooperation in the green transition

38. Latin America is highly vulnerable to the effects of climate change. Shifting precipitation patterns, rising temperatures and the increasing frequency of extreme weather can all take a human and economic toll in the region. The ongoing economic slowdown, an unstable international context affected by geopolitical tensions, increased inflationary pressures and reduced macroeconomic policy space make it more difficult for economies in Latin America to resume a path to sustainable growth and to protect the most vulnerable.

39. The global push towards decarbonization can, however, bring significant opportunities for economies on the continent. Several economies are poised to benefit from the significant endowment of minerals, such as lithium, copper, manganese and nickel, that are essential inputs for low-carbon technologies. For example, Chile, Costa Rica and Uruguay have plans with regard to climate-related issues and are deploying renewables and biodiversity conservation initiatives. Yet there is more to be done to reap the full potential that the clean energy transition can provide in Latin America, and embracing a regional agenda for the green transformation can help facilitate the work of national Governments.

40. The road to a regional climate action plan features many challenges, particularly regarding financing and technology-related issues. The recent success in the region with regard to regional agreements, such as the 2018 Escazú Agreement on three rights, including access to environmental information, and the 2021 Eastern Tropical Pacific Marine Corridor, demonstrate the power of regional collaboration. Governments in Latin America, along with civil society, the business sector and international partners, can take bolder steps commensurate with the scale of the opportunities and challenges in the region.

V. Link between green industrial policy and financing the green transition: Challenges in different regions

A. Asia and the Pacific: Critical role of development banks

41. International financial support and private finance for the green transition in developing countries has, to date, been insufficient, and greater attention needs to be paid to the potential for public development banks and finance institutions to catalyse the process of transition and transformation to a cleaner, greener and more equitable economy. Southern development banks now lend as much in some cases as the Bretton Woods institutions, and

¹² World Trade Organization, 2013, Contribution of intellectual property to facilitating the transfer of environmentally rational technology, Communication from Ecuador, IP/C/W/585, Geneva, 27 February.

¹³ See <https://unctad.org/publication/south-south-cooperation-climate-adaptation-and-sustainable-development>.

under more flexible conditions. Asia has a large and diverse landscape of development banks and finance institutions, some of which are well financed and many which have already been aiming at a green transformation. In addition, there are lessons to be learned from Asia and the Pacific on how to bring about structural transformation in a relatively short time, through the leadership of a developmental state and the strategic use of industrial, financial and other policies. This includes in particular the Southern-led and Southern-oriented banks that have recently been established, in addition to those of longer standing that have undergone significant expansion. The Asian Infrastructure Investment Bank and the policy banks in China are examples in this regard. Other banks promoting green-oriented interventions include the central banks of Bangladesh and the Republic of Korea, which have used a variety of instruments, including variable reserve ratios and interest rates, to create and guide finance to greener uses. At the same time, however, development banks are uneven in coverage, particularly in the least developed and small island developing States, and many gaps remain in Asia and elsewhere.

42. Other kinds of opportunities are also not being taken advantage of because development banks and finance institutions are, for the most part, constrained by limited capitalization, low gearing ratios and the continued requirement on the part of government shareholders to achieve high credit ratings. Improving information and understanding such constraints, along with creating opportunities for Governments and institutions to share experiences, could help build consensus about their potential role and the best ways of supporting endeavours. At present, information about these different institutions and how they work is lacking, and UNCTAD could offer a timely and needed platform to share experiences and deepen understanding of their operations.

43. The need for strengthened public development banks and finance institutions is shown by the limited performance of market-based instruments in Asia and elsewhere. For example, bond issuances by China and Türkiye during the first year of the pandemic attracted demand that was 4–5 times greater than the offer and at times even more, showing that the private sector was seeking investments. In addition, Bhutan has offered sovereign bonds, and other countries in the region may follow. However, the issuance of such bonds needs to be considered in the context of the uneven impact to date of the Asian Bond Markets Initiative, launched by the Association of Southeast Asian Nations and China, Japan and the Republic of Korea in 2002. In addition, it has been difficult to direct such finances to where they are most needed, and instruments to measure the true environmental and social impacts are mostly lacking. New and innovative solutions are clearly needed.

44. Another feature of the landscape is the emerging and potential use of sovereign wealth funds in countries such as Malaysia and Singapore. Such funds can potentially provide trillions of dollars in long-term development finance. However, in most cases, they are directed to the same kinds of activities as finance in the Global North and not towards uses that are particularly developmental or transformational. This is a wasted opportunity, as such funds can provide the bulk of initial investment, to enable the green transition to begin and to crowd in private sector investment, once the basis for a dynamic domestic low-carbon economy has been established.

45. There is a wide range of financial institutions and instruments on offer. Asia and the Pacific is a heterogeneous region, hosting some of the world's largest new development banks and finance institutions, yet with critical gaps remaining and with some countries underserved. This includes countries that have green-oriented industrial policies or ambitions and would be willing partners if finance and policy support was more forthcoming. Some of the poorest countries are experimenting with innovative new green finance techniques; many are experimenting with green industrial policy. This includes small island developing States, of which there are 17 economies in the region, and which share most of the same challenges as faced in other countries in the region, but which have additional unique needs and experiences due to their small economic size and vulnerability.

B. Small island developing States: Particular challenges

46. There are 39 small island developing States and 18 economies in that category, recognized as such due to their environment and development status.¹⁴ The aggregate population of small island developing States is 65 million and the scale of the economies combined is small, accounting for only about 0.9 per cent of global GDP. Within the group, the development level varies considerably. Some small island developing States are high-income economies (e.g. Bahamas, Barbados, Singapore); eight small island developing States are in the group of the least developed countries, namely the Comoros, Guinea-Bissau, Haiti, Kiribati, Sao Tome and Príncipe, Solomon Islands, Timor-Leste and Tuvalu. The latter face significant challenges in financing efforts towards a green transition and achieving the Sustainable Development Goals. Around 90 per cent of small island developing States are located in the tropics, which makes them vulnerable to extreme weather events or other climate-related hazards such as tropical cyclones, storm surges, droughts, changing precipitation patterns, sea level rise, coral bleaching and invasive species. Compared with other countries with larger landmasses, climate change-driven impacts and risks are amplified in small island developing States due to boundedness, small land areas, remoteness from more populated areas and restricted global connectivity. The impacts and risks may include the degradation of human health and well-being, the destruction of human settlements and infrastructure, water insecurity, the submergence and flooding of islands and coastal areas, reef island destabilization and coastal erosion, the loss of terrestrial biodiversity, economic decline, loss of cultural resources and heritage and the reduced habitability of islands.

47. In 1970–2019, there were 11,072 weather, climate and water-related disasters in the world, resulting in 2.06 million deaths and \$3.64 trillion in economic losses, of which 10,253 deaths and \$150.07 billion in losses were recorded among small island developing States and island territories, mainly from 465 tropical cyclone-related disasters.¹⁵ In small island developing States, climate adaptation, defined by the Intergovernmental Panel on Climate Change as the process of adjustment to actual or expected climate and its effects, is at the centre of the response to climate change.¹⁶ The greenhouse gas emissions of small island developing States are minimal, accounting for 1.5 per cent of the emissions of industrialized economies. The agriculture and energy sectors account for about 90 per cent of the total emissions of small island developing States. However, the associated impacts and risks are disproportionately greater and it is therefore more urgent that small island developing States, and the majority of developing countries, take adaptation actions to reduce vulnerability and build resilience. Targeting particular vulnerabilities and risks, the Intergovernmental Panel on Climate Change has noted key risk-oriented adaptation actions for small island developing States, such as the following: restoration of coastal ecosystems; hard protection; diversified livelihoods; reef-to-ridge ecosystem management; watershed management; migration; improved technology; product and market diversification; and adaptive finance.¹⁷

48. The primacy of adaptation actions does not diminish the importance of the energy transition in small island developing States. Almost all of these States depend heavily on fossil fuels for power generation and many other purposes such as the desalination of water, transportation and the exploitation of marine resources.¹⁸ However, given their unique geographical characteristics, many of these States could benefit from the potential of renewable energy sources such as solar, wind, tidal and oceanic sources. It is therefore desirable and feasible for small island developing States to accelerate the energy transition, with adequate support from the international community.

Transitional constraints

49. The financing gap is the most challenging barrier for developing countries, including small island developing States, in advancing on the green transition. In 2020, developed

¹⁴ See <https://www.un.org/ohrlls/content/list-sids>.

¹⁵ See <https://public.wmo.int/en/resources/atlas-of-mortality>.

¹⁶ See <https://www.ipcc.ch/report/ar5/wg2/>.

¹⁷ Intergovernmental Panel on Climate Change, 2022.

¹⁸ A/RES/69/15.

countries provided \$83.3 billion in 2020, compared with the commitment of \$100 billion in support agreed at the fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change. With regard to small island developing States, in 2016–2020, annual average climate finance mobilized was about \$1.5 billion, representing about 2 per cent of total climate finance. Small island developing States have estimated the cost of nationally determined contributions at \$92 billion, yet this excludes a significant portion of needs.¹⁹ In addition, a large portion of climate finance received by small island developing States has been non-concessional (for example, in 2017–2018, 50 per cent of climate finance received was non-concessional), which further adds to debt burdens.

50. Due to various reasons, such as structural trade deficits, narrow domestic production bases and a significant level of dependence on external finance, small island developing States faced increasing debt distress even before the pandemic. In 2000–2019, the external debt of these States rose by 24 percentage points of GDP. By 2019, external debt accounted for 62 per cent of GDP on average in these States. The pandemic and climate crisis have aggravated the debt positions of small island developing States, putting them at great risk of defaulting. In addition to the financing gap, technology and capacity gaps are also challenging in achieving the green transition in these States. The challenge is to identify and collect correct data to demonstrate climate vulnerability for adaptation projects, which further makes it difficult for small island developing States to attract investment.

51. To advance on the green transition and respond to climate-related impacts and risks, Governments and the international community should urgently take various collective actions. At the national level, small island developing States could formulate integrated strategies to diversify economies, including by expanding the industrial base as appropriate, to reduce overdependence on a single or a few sectors and improve the trade balance. By doing so, small island developing States could also increase domestic capital formation and gradually address the debt issue.

52. At the regional level, as suggested at an UNCTAD workshop held in Barbados in February 2023, small island developing States could intensify regional integration efforts and enhance South–South economic cooperation.²⁰ The Caribbean Community secretariat strategy for 2022–2030 includes actions in this regard and envisions more active global advocacy by its members, for effective actions to address climate change. UNCTAD has also proposed a set of policy recommendations to support climate adaptation in developing countries, which can be applied in small island developing States.

53. At the international level, developed countries need to honour climate financing commitments and scale up official development assistance, to support the green transition and economic diversification in small island developing States. Developed countries could also positively respond to the technology gap in the green transition in small island developing States through more development-friendly technology transfers or sharing mechanisms.

C. Africa: Significant potential for a green transition

54. Africa as a continent faces a complex set of intertwined challenges. Countries in Africa have significant potential for economic development, yet many are still dealing with famine, energy poverty, armed conflicts, economic insecurity, lack of employment and high indebtedness levels, among other issues. These are compounded by the increasingly adverse impacts of climate change. However, given the richness of the natural resources, as well as the location in the tropical or subtropical zones, the continent has significant potential to become a leading producer of renewable energy and industries related to this sector.

55. Notable among structural deficiencies that constrain development potential in Africa are the lack of food sovereignty, the lack of energy sovereignty and the low value added content of

¹⁹ See <https://www.un.org/ohrls/sids%20climate%20financing%20report%202022>.

²⁰ See <https://unctad.org/meeting/workshop-and-national-consultation-promoting-sustained-recovery-through-economic>.

exports compared with that of imports.²¹ These contribute to structural trade deficits, weakening domestic currencies and increasing the need to borrow internationally. In situations of depreciating currencies and increasing import prices of necessities, Governments may subsidize consumption through additional international borrowing, further increasing indebtedness.

56. Addressing such structural deficiencies could reduce dependence on imports, diminish the need for international borrowing and help build productive capacity that would increase value added and steer the economy towards a low-carbon future. However, an alternative development strategy is needed, based on agency, regional cooperation and greater self-reliance. Tapping the potential for development also depends on enabling conditions at the global level, a concern shared with other developing regions.

VI. Questions for discussion

57. Delegates at the sixth session of the Multi-year Expert Meeting on Enhancing the Enabling Economic Environment at All Levels in Support of Inclusive and Sustainable Development, and the Promotion of Economic Integration and Cooperation may wish to consider the following issues:

(a) How can global enabling conditions for developing countries to build industrial capacities needed for the transition to a clean energy growth model be improved?

(b) How can regional cooperation be instrumental in overcoming the major challenges that prevent developing countries from adopting green technology and innovation?

(c) What should national Governments, regional and South–South economic organizations, the private sector, civil society and other stakeholders do to harness the full potential of new technologies?

(d) How can the international community support the efforts of developing countries to build industrial capacity in a climate-constrained world?

(e) What are the particular challenges and opportunities faced in different regions of the Global South on the way to a green transformation?

(f) With regard to employment and gender-related impacts, how will the shift to a greener industry structure impact women and girls?

²¹ UNCTAD, 2022. See https://justtransitionafrica.org/wp-content/uploads/2023/05/Just-Transition-Africa-report-ENG_single-pages.pdf.